

interval  $T_0$ , where  $T_5 < T_0$ . In other words, it is advantageous if the processing unit **110** is configured to control the array of light sources **131** and **132** such that each light pulse  $\Lambda_{em}$  (or  $\Lambda_{emX}$  and  $\Lambda_{emY}$  in FIG. 1) has a duration  $T_0$  exceeding a conversion time of the digitizing unit **150** for producing the digital data  $D_{FB}$  based on the received measurement values. At the end of the specified interval  $T_0$ , the voltage  $V_B$  is caused to drop down from a value slightly exceeding the secondary measurement value  $V_2$  in response to the first control signal PC. The voltage  $V_B$  levels out at a  $V_1$ -value designating an updated ambient light intensity in respect of a subsequent light pulse.

**[0045]** FIG. 4 illustrates a mobile terminal T, which includes the above-described interface arrangement. Hence, the terminal T may be any type of device which is configured to process digital data in response to user-generated commands, and present processed information on a display device D integrated in the terminal T. I.e. the terminal may represent a cellular/mobile phone, a wireless telephone, a PDA (Portable Digital Assistant), a portable game device, or a hybrid unit comprising two or more thereof.

**[0046]** In order to sum up, the general method of generating input commands to a mobile terminal according to the invention will be described below with reference to the flow diagram in FIG. 5.

**[0047]** A first step **510** records at least one initial measurement value, which is registered by at least one detector in an array of light detectors arranged along one side of a display device. The initial measurement value(s) is/are taken to represent(s) an ambience light intensity.

**[0048]** Subsequently, a step **520** initiates transmission of light over the display device from at least one light source in an array of light sources, which is arranged along a side of the display device different from the side where the array of light detectors is arranged. Hence, a light pulse starts. A step **530** then records a secondary measurement value registered by at least one light detector, i.e. during transmission of light from the at least one light source. Thereafter, a step **540** terminates the transmission of light from the at least one source in an array of light sources. Hence, the light pulse ends.

**[0049]** After that, based on the initial and secondary measurement values, a step **550** determines whether or not a light-obstructive object was present on the display device between the at least one light source and at least one light detector. Finally, the procedure loops back to step **510** via a step **560**, which causes a predefined delay. The delay is here adapted to accomplish a desired separation in time between two consecutive light pulses, such that a respective light pulse is repeatedly transmitted from each source according to a predefined sequence.

**[0050]** All of the process steps, as well as any sub-sequence of steps, described with reference to the FIG. 5 above may be controlled by means of a programmed computer apparatus. Moreover, although the embodiments of the invention described above with reference to the drawings comprise computer apparatus and processes performed in computer apparatus, the invention thus also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code; object code, a code intermediate source and object code such as in partially compiled form, or in any other form suitable for use in the implementation of the process according to the invention. The carrier may be any entity or device capable of carrying the

program. For example, the carrier may comprise a storage medium, such as a Flash memory, a ROM (Read Only Memory), for example a CD (Compact Disc) or a semiconductor ROM, an EPROM (Erasable Programmable Read-Only Memory), an EEPROM (Electrically Erasable Programmable Read-Only Memory), or a magnetic recording medium, for example a floppy disc or hard disc. Further, the carrier may be a transmissible carrier such as an electrical or optical signal which may be conveyed via electrical or optical cable or by radio or by other means. When the program is embodied in a signal which may be conveyed directly by a cable or other device or means, the carrier may be constituted by such cable or device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant processes.

**[0051]** The term “comprises/comprising” when used in this specification is taken to specify the presence of stated features, integers, steps or components. However, the term does not preclude the pre or addition of one or more additional features, integers, steps or components or groups thereof.

**[0052]** The invention is not restricted to the described embodiments in the figures, but may be varied freely within the scope of the claims.

1. An interface arrangement for receiving input commands in a mobile terminal, comprising:

a display device (D) adapted to present visual information to a user,

at least one array of light sources (**131**, **132**) arranged along at least one first side of the display device (D), each array of light sources being configured to transmit light pulses ( $\Lambda_{emX}$ ,  $\Lambda_{emY}$ ) over the display device (D),

at least one array of light detectors (**141**, **142**) arranged along at least one second side of the display device (D), each array of light detectors (**141**, **142**) being configured to receive a part ( $\Lambda_{inX}$ ,  $\Lambda_{inY}$ ) of the energy in the transmitted light pulses ( $\Lambda_{emX}$ ,  $\Lambda_{emY}$ ), and

a processing unit (**110**) adapted to control the array of light sources (**131**, **132**) such that a respective light pulse ( $\Lambda_{emX}$ ,  $\Lambda_{emY}$ ) is repeatedly transmitted from each source ( $LX1, \dots, LXn; LY1, \dots, LYm$ ) in the at least one array of light sources (**131**, **132**) according to a predefined sequence, receive information pertaining to light energy registered by the detectors ( $PX1, \dots, PXn; PY1, \dots, PYm$ ) in the at least one array of light detectors (**141**, **142**), and based thereon determine whether or not a light-obstructive object is present on the display device (D) between a given light source ( $D_{em}$ ) and at least one light detector ( $D_{ph}$ ) in the at least one array of light detectors (**141**, **142**), characterized in that the processing unit (**110**) is adapted to:

record an initial measurement value ( $V_1$ ) registered by at least one detector ( $D_{ph}$ ) in the at least one array of light detectors (**141**, **142**) prior to transmitting the light pulse ( $\Lambda_{emX}$ ,  $\Lambda_{emY}$ ), the initial measurement value ( $V_1$ ) representing an ambience light intensity, and determine whether or not a light-obstructive object is present on the display device (D) based on the initial measurement value ( $V_1$ ) and a secondary measurement value ( $V_2$ ) registered by at least one light detector ( $D_{ph}$ ) during emission of light from the light source ( $D_{em}$ ).

2. The interface arrangement according to claim 1, wherein the display device (D) has a rectangular outline with four